SERVICE MANUAL

TEAC MODEL MB-20
METER BRIDGE

TEAC®

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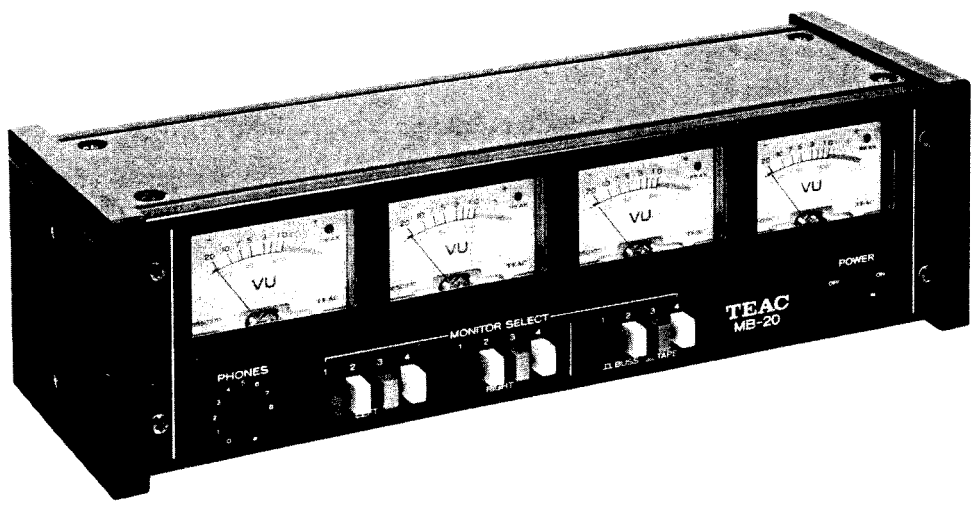
I. INTRODUCTION

The TEAC Model MB-20 Meter Bridge is flexibly designed for companion applications with various audio equipments such as mixing boards and tape recorders at numerous forms of recording situations.

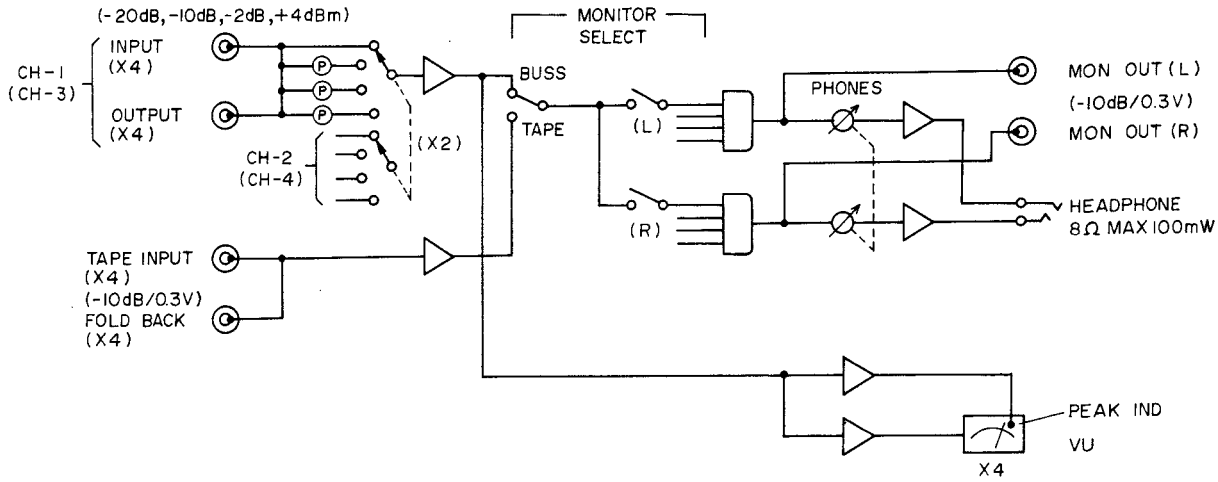
Not only can this Meter Bridge allow individual monitoring of line level signals with the four meters, it can also function as a simple mixer for mixdown of four channels of inputs, or a separate tape input, into a two channel monitor output.



2. SPECIFICATIONS

INPUT LEVEL	-20dB (0.1V)/-10dB (0.3V)/-2dB (0.78V)/+4dB (1.23V), switchable
INPUT IMPEDANCE	Greater than 100K ohms (with no load at OUTPUT)
OUTPUT LEVEL	Equivalent to input level
OUTPUT LOAD IMPEDANCE	Equivalent to load impedance of externally connected equipment output
TAPE-IN LEVEL	-10dB (0.3V)
TAPE-IN IMPEDANCE	Greater than 50K ohms (with no load at OUTPUT)
FOLDBACK LEVEL	-10dB (0.3V)
FOLDBACK LOAD IMPEDANCE	Equivalent to load impedance of tape recorder output connected to TAPE-IN
MON OUT LEVEL	-10dB (0.3)
MON OUT LOAD IMPEDANCE	Greater than 10K ohms
HEADPHONE	Load impedance 8 ohms, maximum level 100mW
FREQUENCY RESPONSE (Overall - INPUT thru MON OUT)	30Hz ∿ 20KHz, +0.5dB/-0.5dB
SIGNAL TO NOISE RATIO (Overall - INPUT thru MON OUT)	70dB WTD, 65dB UNWTD
PHONE RESIDUAL NOISE	-60dB
DISTORTION (Overall - INPUT thru MON OUT)	0.1% THD max.
METER RESPONSE (Overall)	30Hz ∿ 100KHz, ±0.5VU, at 0VU level
POWER REQUIREMENTS	117V, AC 60Hz, 8W

3. SIMPLIFIED BLOCK DIAGRAM



4. THE CONTROLS AND THEIR FUNCTIONS

4.1 The Front Panel

METERS (X4): VU-type level averaging meters, each equipped with a fast-acting, peak reading LED level indicator. The LED level indicator is factory calibrated to trigger at 10 VU.

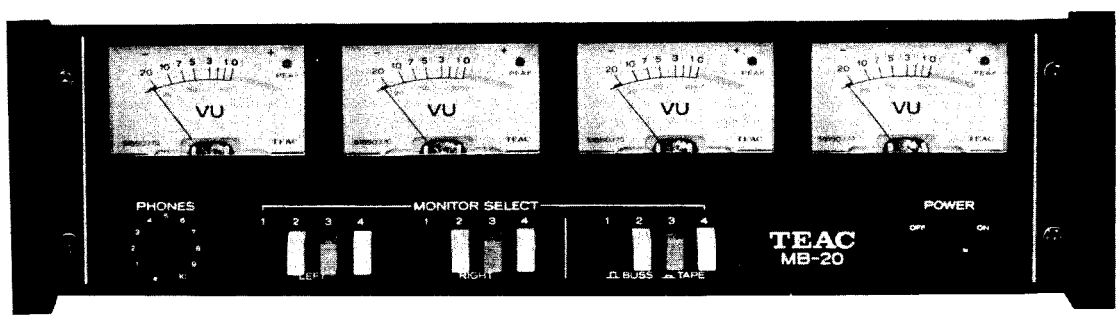
PHONES: A continuously variable level control that regulates an internal 1 watt headphone amplifier (for the rear panel PHONES jack).

MONITOR SELECT Section: Controls the 4 X 2 monitor mixer and buss/tape monitor selectors. All circuitry is post-metering and has no effect on the meter display. The stereo mix from this section exits the MB-20 at both the MONITOR OUT jacks and the PHONES jack.

The color-coded BUSS/TAPE MONITOR SELECTORS for each channel let you determine the signal to be fed into the monitor mixer. You can hear the signal from either the tape recorder - DOWN position - or the outputs of a mixer - UP position - when the proper hook-up is made.

4 X 2 Monitor Mixer --- The left and right channel assign buttons allow you to route any or all of the four input signals to the left or right (or both for "center") MONITOR OUTput.

POWER: The ON/OFF AC power switch for the MB-20.



4.2 The Rear Panel

(Please refer to the SPECIFICATIONS for nominal levels and impedances)

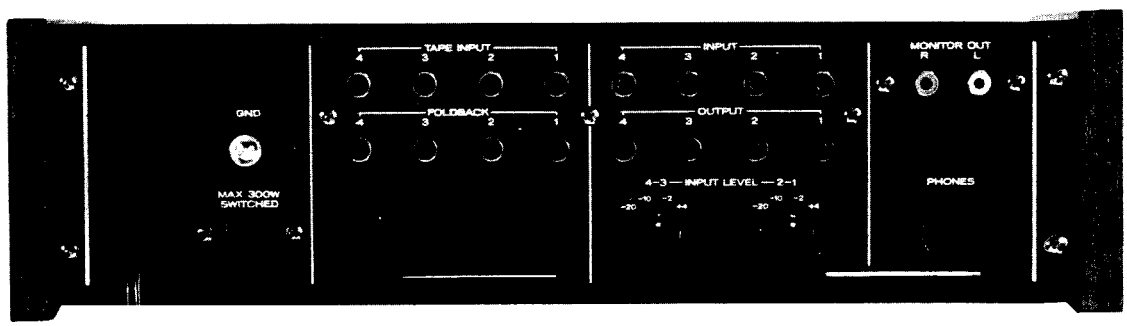
INPUT (X4): The main line inputs of the MB-20. Signals entering here are displayed on the meters. Usually, these inputs will be fed by 4 outputs of a mixer. But you can, of course, use these inputs with a variety of line level sources - direct outputs, aux out, etc.

OUTPUT (X4): Line level outputs of the MB-20. Not affected by the MONITOR SELECT section. Typically used to feed the line inputs of a multi-channel tape recorder.

INPUT LEVEL: Two input sensitivity selectors for channels 1 & 2 and 3 & 4, respectively. Each is a 4-position click-stop switch that allows you to match the MB-20's input level sensitivity to your source. If you are using external signal processing equipment (spring reverb, digital delay, graphic equalizer), you can drive this gear directly from the MB-20 and use the sensitivity controls to match levels.

Practically speaking, these controls make sure you can calibrate a "0 VU' reference point. For example, if you are using the MB-20 with a mixer which has a nominal output level of -10dB, the switch (in the "-10" position) assures you an accurate reference.

The important thing to remember is that you want to meter whatever you are driving. So the sensitivity controls will give you the proper output level. If, for example, you want to drive a spring reverb which has a nominal input level of -20dB, and you are feeding the MB-20 by a mixer which has a nominal output level of -10dB, place the switch in the "-20" position and "0 VU" will be true to the spring reverb. You will notice that you can't drive the system too hot - the input faders on the mixer will be rather low. But your meter reference will be accurate and you won't overload the reverb unit.



TAPE INPUT (X4): Line level inputs, typically fed by 4 line outputs of a multi-channel tape recorder. These inputs are tied to the built-in 4 X 2 Monitor Mixer. However, they do NOT feed the metering system.

FOLDBACK (X4): A foldback (output) on the TAPE INPUTS not affected by the MONITOR SELECT section. Typically used to feed 4 inputs on a mixer.

MONITOR OTU (L & R): The left and right channel outputs of the monitor mixer. These outputs usually feed a stereo amplifier.

PHONES: Stereo headphone jack (8 ohms). The level is controllable via the front panel PHONES level control. The signal at the phone jack is identical to that presented at the MONITOR OUT jacks.

GND: Common grounding point for the MB-20, as required. If you are confronted with hum of RF problems when system connections are completed, take this grounding point and experiment with different terminations such as cold water pipes, another chassis, etc. While we cannot claim the MB-20 is absolutely RF-proof, we do know it works satisfactorily in a number of installations in relatively dense RF fields. If you do have RF problems, it may be due to interconnection errors, lack of proper system grounding or being in a dense RF field.

POWER CORD: The AC mains should be connected to 117 VAC, 60Hz.

SWITCHED AC OUTLET: Live AC power feed when the MB-20 is switched ON. 117 VAC, 60Hz, maximum 300 watts.

5. LEVEL SETTING AND OPERATION CHECK

5-1 Circuit check of INPUT 1 ⟶ MON OUT L or MON OUT R

1) Apply a 1KHz, -10dB (0.3V) signal to the INPUT 1 jack.
2) Plug in a level meter to the MON OUT L or R pin jack.
3) Set the MB-20 controls as follows:

INPUT LEVEL 1-2 (rear panel)	Set to -10
MONITOR SELECT (LEFT section)	Depress "1"
" " (RIGHT section)	" "1"
" " (BUSS/TAPE section)	Set to BUSS

4) If the level meter reading is -10dB (0.3V), ±1dB, the circuit is considered to be in good condition. This check is made by alternately connecting a level meter to the L and R channels of MON OUT.

Calibrating the VU meter

1) With the MB-20 controls set as in above procedure and a -10dB (0.3V) signal is applied to INPUT 1, a 0VU ±0.5VU reading on the extreme left VU meter (channel 1) will mean this meter is properly calibrated.
2) If the VU meter do not indicate 0VU, remove the top cover (Parts No. 6037 3470) and adjust calibrating pot R101 (1KΩB) marked VU 1 which is the trim pot for the channel 1 meter.

Calibrating the peak indicator

1) Following calibration of the VU meters, the peak indicator inside the extreme left VU meter (channel 1) is checked for proper operation.
2) Reset to -20 the rear panel INPUT LEVEL 1-2 switch.
   Apply the same -10dB (0.3V) signal to INPUT 1, and the level meter connected to MON OUT L should read 0dB (1V).
   The LED should light under the above level which means the Peak Indicator is properly calibrated.
   If it requires re-calibration, adjust R101 (10KΩB) marked PEAK 1 (for channel 1).

5-2 Circuit check of INPUT 2 ⟶ MON OUT L or MON OUT R

1) Apply a 1KHz, -10dB (0.3V) signal to the INPUT 2 jack.
2) Plug in a level meter to the MON OUT L or R pin jack.
3) Set the MB-20 controls as follows:

INPUT LEVEL 1-2 (rear panel)	Set to -10
MONITOR SELECT (LEFT section)	Depress "2"
" " (RIGHT section)	" "2"
" " (BUSS/TAPE section)	Set to BUSS

4) If the level meter reading is -10dB (0.3V), ±1dB, the circuit is considered to be in good condition. This check is made by alternately connecting a level meter to the L and R channels of MON OUT.

Calibrating the VU meter

1) With the MB-20 controls set as in above procedure and a -10dB (0.3V) signal is applied to INPUT 2, a 0VU ±0.5VU reading on the second from left meter (channel 2) will mean this meter is properly calibrated.
2) If the VU meter do not indicate 0VU, remove the top cover and adjust calibrating pot R104 (1KΩB) marked VU 2 which is the trim pot for the channel 2 meter.

Calibrating the peak indicator

1) Following calibration of the VU meters, the peak indicator inside the second from left VU meter (channel 2) is checked for proper operation.
2) Reset to -20 the rear panel INPUT LEVEL 1-2 switch.
   Apply the same -10dB (0.3V) signal to INPUT 2, and the level meter connected to MON OUT L should read 0dB (1V).
   The LED should light under the above level which means the Peak Indicator is properly calibrated.
   If it requires re-calibration, adjust R103 (10KΩB), marked PEAK 2 (for channel 2).

5-3 Circuit check of INPUT 3 ⟶ MON OUT L or MON OUT R

1) Apply a 1KHz, -10dB (0.3V) signal to the INPUT 3 jack.
2) Plug in a level meter to the MON OUT L or R pin jack.
3) Set the MB-20 controls as follows:

INPUT LEVEL 3-4 (rear panel)	Set to -10
MONITOR SELECT (LEFT section)	Depress "3"
" " (RIGHT section)	" "3"
" " (BUSS/TAPE section)	Set to BUSS

4) If the level meter reading is -10dB (0.3V), ±1dB, the circuit is considered to be in good condition. This check is made by alternately connecting a level meter to the L and R channels of MON OUT.

Calibrating the VU meter

1) With the MB-20 controls set as in above procedure and a -10dB (0.3V) signal is applied to INPUT 3, a 0VU ±0.5VU reading on the second from right meter (channel 3) will mean this meter is properly calibrated.
2) If the VU meter do not indicate 0VU, remove the top cover and adjust calibrating pot R106 (1KΩB) marked VU 3 which is the trim pot for the channel 3 meter.

Calibrating the peak indicator

1) Following calibration of the VU meters, the peak indicator inside the extreme right VU meter (channel 4) is checked for proper operation.
2) Reset to -20 the rear panel INPUT LEVEL 3-4 switch.
   Apply the same -10dB (0.3V) signal to INPUT 3, and the level meter connected to MON OUT L should read 0dB (1V).
   The LED should light under the above level which means the Peak Indicator is properly calibrated.
   If it requires re-calibration, adjust R105 (10KΩB), marked PEAK 3 (for channel 3).

5-4 Circuit check of INPUT 4 ⟶ MON OUT L or MON OUT R

1) Apply a 1KHz, -10dB (0.3V) signal to the INPUT 4 jack.
2) Plug in a level meter to the MON OUT L or R pin jack.
3) Set the MB-20 controls as follows:

INPUT LEVEL 3-4 (rear panel)	Set to -10
MONITOR SELECT (LEFT section)	Depress "4"
" " (RIGHT section)	" "4"
" " (BUSS/TAPE section)	Set to BUSS

4) If the level meter reading is -10dB (0.3V), ±1dB, the circuit is considered to be in good condition. This check is made by alternately connecting a level meter to the L and R channels of MON OUT.

Calibrating the VU meter

1) With the MB-20 controls set as in above procedure and a -10dB (0.3V) signal is applied to INPUT 4, a 0VU ±0.5VU reading on the extreme right meter (channel 4) will mean this meter is properly calibrated.
2) If the VU meter do not indicate 0VU, remove the top cover and adjust calibrating pot R108 (1KΩB) marked VU 4 which is the trim pot for the channel 4 meter.

Calibrating the peak indicator

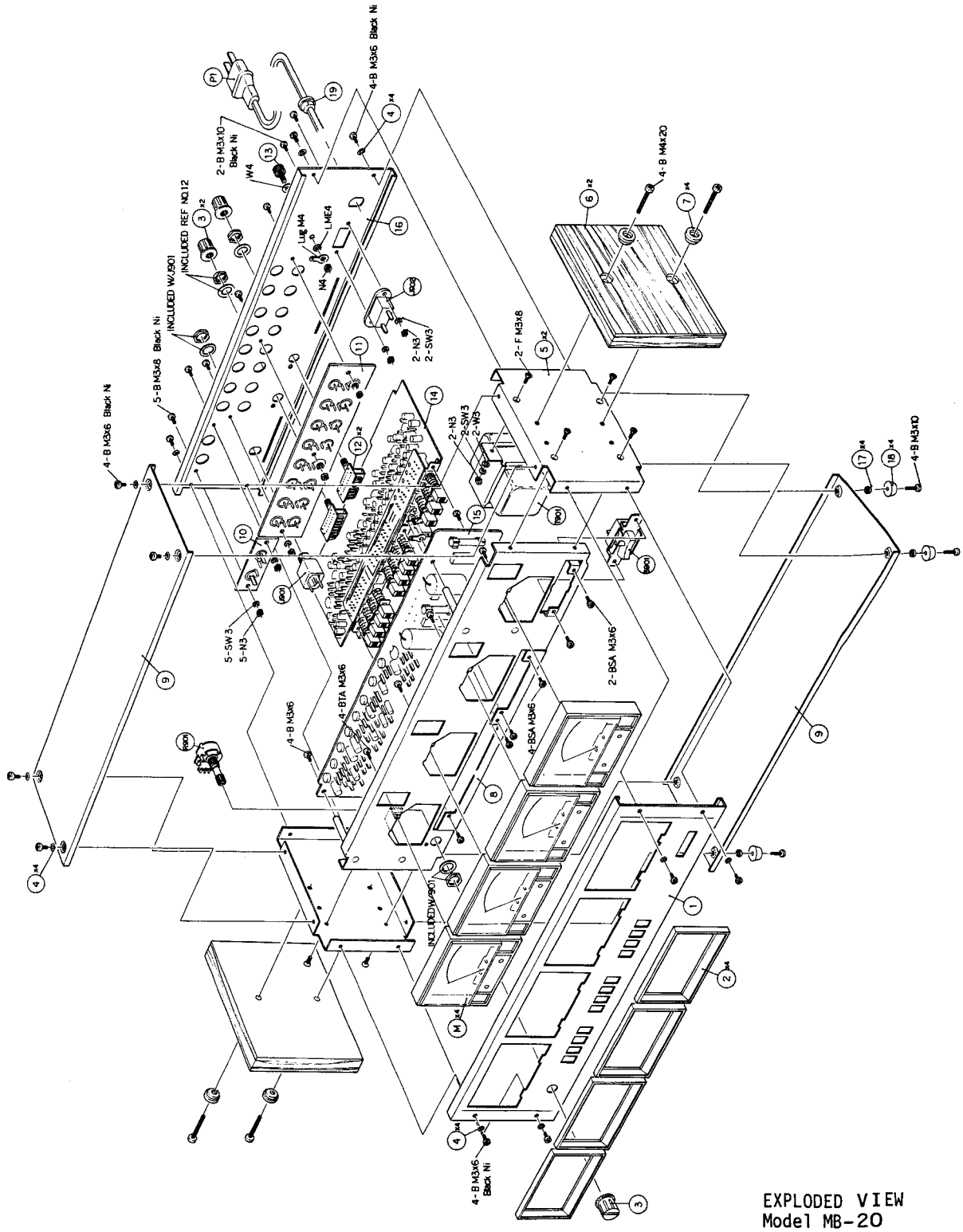
1) Following calibration of the VU meters, the peak indicator inside the extreme right VU meter (channel 4) is checked for proper operation.
2) Reset to -20 the rear panel INPUT LEVEL 3-4 switch.
   Apply the same -10dB (0.3V) signal to INPUT 4, and the level meter connected to MON OUT L should read 0dB (1V).
   The LED should light under the above level which means the Peak Indicator is properly calibrated.
   If it requires re-calibration, adjust R107 (10KΩB) marked PEAK 4 (for channel 4).

5-5 Circuit check of headphone output

1) With the PHONES knob on the front panel at full clockwise position, a 100mW output should be available at the rear panel PHONES jack when a -10dB (0.3V) level is

2) A less than 1mV (-60dB) noise level, regardless of the PHONES knob position, is the normal figure for the Headphone Amplifier.

6. EXPLODED VIEW AND PARTS LIST



EXPLODED VIEW
Model MB-20
REV. _____

PARTS LIST

Title	Exploded View, MB-20	Assembly No. 6085 3070
Ref. No.	Description	Parts No.
1	Panel, front dress	6036 1890
2	Escutcheon, meter	5533 0281
3	Knob, control (B-15S)	6006 0160
4	Washer, Mylar	1649 6057
5	Chassis, side	6037 2941
6	Sideboard	6038 3091
7	Washer, shoulder	5027 6930
8	Chassis, main	6037 3440
9	Plate (top/bottom)	6037 3470
10	Card, RCA pin jack (2 pin)	5048 4630
11	Card A, RCA pin jack	6052 2110
12	Switch assembly, input level	6085 3100
13	Terminal, grounding	5045 4071
14	PCB assembly, mixing amplifier	6085 3080
15	" " , meter amp/pwr supply (UL, CSA, DM)	6085 3090-00
"	" " , meter amp/pwr supply (CEE, SAA)	6085 3090-01
16	Panel, rear	6036 1900
17	Spacer, 3.2 X 6mm, t=2.5mm	6004 8020
18	Bumper, rubber	6038 6810
19	Retainer, cable (UL/CEE/DM)	5027 6810
"	" , " (CSA/BS/SAA)	5032 3011
20	Clamper, AC cord (CSA/BS/SAA)	6037 2200
J901	Jack, standard phone, 3-conductor	5043 2980
J902	Outlet, AC	6052 0080
M	Meter, VU	5165 0370

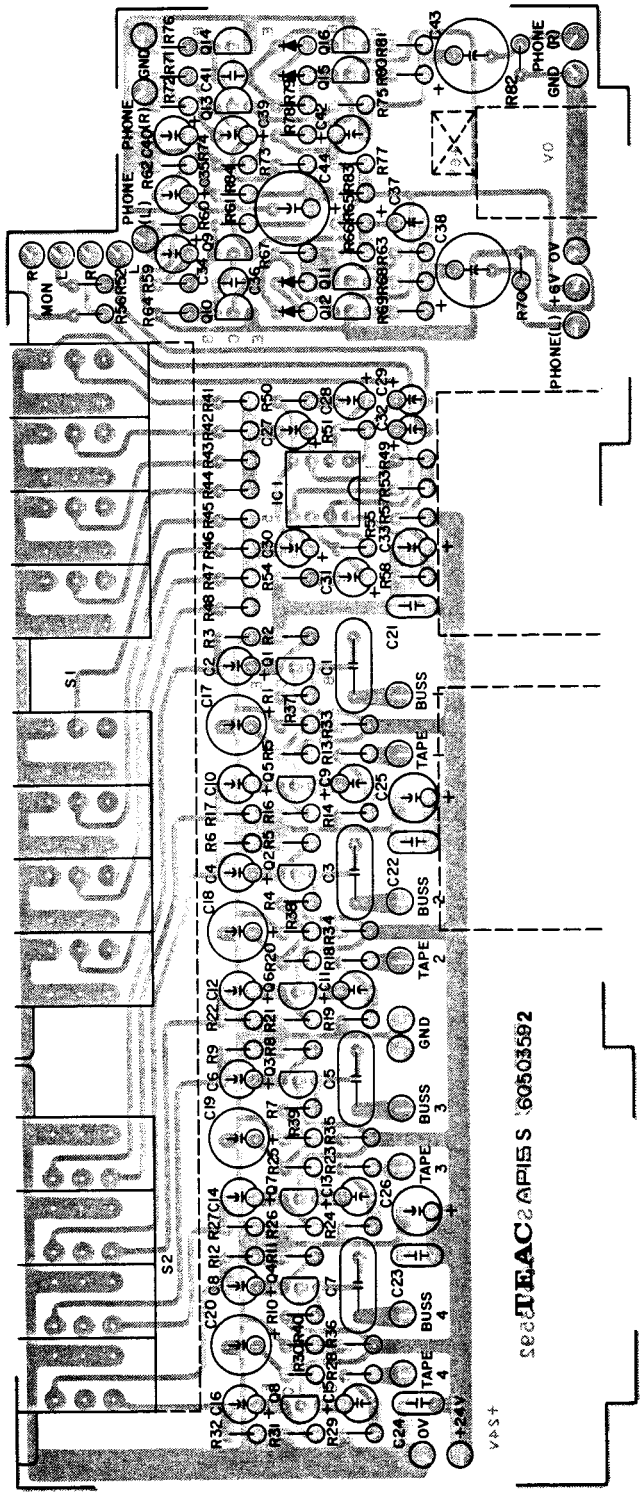
PARTS LIST
Exploded view, MB-20
REV. _____

Ref. No.	Description	Parts No.
S901	Switch, power	5138 0010
T901	Transformer (100V/117V)	6046 0631
"	" (220V/240V)	6046 0691
R901	Potentiometer, rotary, 20Kohm X 2 taper A	6042 0940
P1	Plug, AC; w/power cord (UL)	5047 1661
	(CSA)	6049 0960
	(CEE)	6049 1250
	(BS)	6049 1320
	(SAA)	6049 1180
	(DM)	5128 0340
	Rack mount angle (accessory)	6038 3101

PARTS LIST
Exploded View, MB-20
REV.____

7. PCB ASSEMBLIES AND PARTS LIST

7.1 Mixing amplifier PCB assembly



LOCATION OF COMPONENTS
Mixing Amplifier PCB Ass'y
REV. ____

PARTS LIST

Title	Mixing Amplifier PCB Assembly	Assembly No. 6085 3080
Ref. No.	Description	Parts No.
	Mixing amplifier PCB	6050 3592
	Switch PCB	6050 3611
	Push switch	6051 4080
	"	6051 4170
IC1	Integrated circuit, 4558	6048 6070
Q1~8, 10, 14	Transistor, 2SC1312-YG	6048 0450
Q11, 15	" , 2SD355D	6048 0780
Q12, 16	" , 2SB525D	6048 0790
Q9, 13	" , 2SA725F	6048 0520
	Diode, 1S2473 (Type VE)	6048 3370
R1	Resistor, carbon, 1Mohm	
R2	" , " , 4.7Kohm	
R3	" , " , 47Kohm	
R4	" , " , 1Mohm	
R5	" , " , 4.7Kohm	
R6	" , " , 47Kohm	
R7	" , " , 1Mohm	
R8	" , " , 4.7Kohm	
R9	" , " , 47Kohm	
R10	" , " , 1Mohm	
R11	" , " , 4.7Kohm	
R12	" , " , 47Kohm	
R13	" , " , 68Kohm	
R14	" , " , 47Kohm	
R15	" , " , 100Kohm	
R16	" , " , 4.7Kohm	
R17	" , " , 47Kohm	
R18	" , " , 68Kohm	
R19	" , " , 47Kohm	
R20	" , " , 100Kohm	

All resistors ¼W, ±5% unless otherwise indicated.

PARTS LIST
Mixing amplifier PCB assembly
REV. ____

Ref. No.	Description	Parts No.
R21	Resistor, carbon, 4.7Kohm	
R22	" , " , 47Kohm	
R23	" , " , 68Kohm	
R24	" , " , 47Kohm	
R25	" , " , 100Kohm	
R26	" , " , 4.7Kohm	
R27	" , " , 47Kohm	
R28	" , " , 68Kohm	
R29	" , " , 47Kohm	
R30	" , " , 100Kohm	
R31	" , " , 4.7Kohm	
R32	" , " , 47Kohm	
R33-40	" , " , 15Kohm	
R41-48	" , " , 27Kohm	
R49	" , " , 100Kohm	
R50	" , " , 6.2Kohm	
R51	" , " , 75Kohm	
R52	" , " , 100 ohm	
R53	" , " , 100Kohm	
R54	" , " , 6.2Kohm	
R55	" , " , 75Kohm	
R56	" , " , 100 ohm	
R57,58	" , " , 33Kohm	
R59	" , " , 100 ohm	
R60	" , " , 20Kohm	
R61	" , " , 18Kohm	
R62	" , " , 1Kohm	
R63	" , " , 2.2Kohm	
R64	" , " , 1.5Kohm	
R65	" , " , 100 ohm	
R66	" , " , 220 ohm	
R67	" , " , 470 ohm	
R68,69	" , " , 1 ohm	
R70	" , " , 1Kohm	
R71	" , " , 100 ohm	
R72	" , " , 20Kohm	

PARTS LIST
Mixing Amplifier PCB Ass'y
REV.____

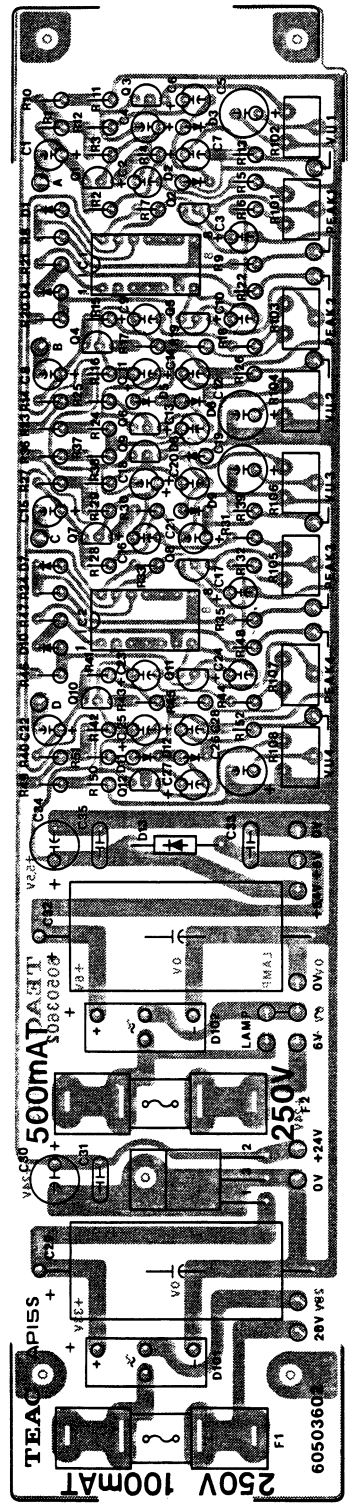
Ref. No.	Description	Parts No.
R73	Resistor, carbon, 18Kohm	
R74	" , " , 1Kohm	
R75	" , " , 2.2Kohm	
R76	" , " , 1.5Kohm	
R77	" , " , 100 ohm	
R78	" , " , 220 ohm	
R79	" , " , 470 ohm	
R80,81	" , " , 1 ohm	
R82	" , " , 1Kohm	
R83	" , " , 150Kohm	
R84	" , " , 47Kohm	
C1	Capacitor, mylar, 50V, 0.1uF	6044 5550
C2	" , electrolytic, 16V, 22uF	6043 1850
C3	" , mylar, 50V, 0.1uF	6044 5550
C4	" , electrolytic, 16V, 22uF	6043 1850
C5	" , mylar, 50V, 0.1uF	6044 5550
C6	" , electrolytic, 16V, 22uF	6043 1850
C7	" , mylar, 50V, 0.1uF	6044 5550
C8	" , electrolytic, 16V, 22uF	6043 1850
C9	" , " , 50V, 2.2uF	6043 1780
C10	" , " , 16V, 22uF	6043 1850
C11	" , " , 50V, 2.2uF	6043 1780
C12	" , " , 16V, 22uF	6043 1850
C13	" , " , 50V, 2.2uF	6043 1780
C14	" , " , 16V, 22uF	6043 1850
C15	" , " , 50V, 2.2uF	6043 1780
C16	" , " , 16V, 22uF	6043 1850
C17-20	" , " , 16V, 47uF	5055 4010
C21-24	" , ceramic, 50V, 0.01uF	6044 0050
C25,26	" , electrolytic, 35V, 10uF	5055 4510
C27	" , " , 16V, 10uF	6043 1770
C28	" , " , 16V, 10uF	5055 4050
C29	" , " , 16V, 10uF	6043 1770
C30	" , " , 16V, 10uF	6043 1770
C31,33	" , " , 16V, 10uF	5055 4050

PARTS LIST
Mixing Amplifier PCB Ass'y
REV.____

Ref. No.	Description	Parts No.
C32	Capacitor, electrolytic, 16V, 10uF	6043 1770
C34	" , " , 16V, 10uF	6043 1770
C35	" , " , 16V, 22uR	5055 4880
C36	" , polystyrene, 50V, 220pF	6043 5240
C37	" , electrolytic, 10V, 47uF	5055 4010
C38	" , " , 6.3V, 470uF	5055 4600
C39	" , " , 16V, 10uF	6043 1770
C40	" , " , 16V, 22uF	5055 4880
C41	" , polystyrene, 50V, 220pF	6043 5240
C42	" , electrolytic, 10V, 47uF	5055 4010
C43	" , " , 6.3V, 470uF	5055 4600
C44	" , " , 6.3V, 470uF	5055 4600

PARTS LIST
Mixing Amplifier PCB Ass'y
REV.____

7.2 Meter amplifier/power supply PCB assembly



LOCATION OF COMPONENTS
Meter Amplifier/ Power Supply PCB Ass'y
REV. _____

PARTS LIST

Title	Meter Amplifier/Power Supply PCB Ass'y	Assembly No. 6085 3090
Ref. No.	Description	Parts No.
	PCB, meter amplifier	6050 3602
IC1,2	Integrated circuit SN 7400	6048 9000
IC3	" FS 7824M	6048 6160
Q1-12	Transistor, 2SC1312-YG	6048 0450
D101,102	Diode stack, S1RBA20	6048 3440
D1-12	Diode, 1S2473 (type VE)	6048 3370
D13	" , 1N4002	6048 3270
F1	Fuse, slow blow, 0.5AT 250V (UL/CSA)	6046 9010
	" , " , " " (CEE/BS)	6046 9020-03
F2	" , " , 0.1AT 250V (UL/CSA)	6046 9010-07
	" , " , " " (CEE/BS)	6046 9020-01
	Fuse holder, SN-5054	6052 9020
R101	Pot, trim, SR29R 10KohmB	5053 3910
R102	" , " , " 1KohmB	5053 3950
R103	" , " , " 10KohmB	5053 3910
R104	" , " , " 1KohmB	5053 3950
R105	" , " , " 10KohmB	5053 3910
R106	" , " , " 1KohmB	5053 3950
R107	" , " , " 10KohmB	5053 3910
R108	" , " , " 1KohmB	5053 3950
R1	Resistor, carbon, 470Kohm	
R2	" , " , 39Kohm	
R3	" , " , 3.3Kohm	
R4	" , " , 390 ohm	
R5	" , " , 10Kohm	
R6	" , " , 4.7Kohm	
R7	" , " , 1Kohm	

PARTS LIST
Meter Amplifier/Power Supply PCB Ass'y
REV._____

Ref. No.	Description	Parts No.
R8	Resistor, carbon, 470 ohm	
R9	" , " , 330 ohm	
R10	" , " , 470Kohm	
R11	" , " , 22Kohm	
R12	" , " , 2.2Kohm	
R13	" , " , 8.2Kohm	
R14	" , " , 470Kohm	
R15	" , " , 39Kohm	
R16	" , " , 3.3Kohm	
R17	" , " , 390 ohm	
R18	" , " , 10Kohm	
R19	" , " , 4.7Kohm	
R20	" , " , 1Kohm	
R21	" , " , 470 ohm	
R22	" , " , 330 ohm	
R23	" , " , 470Kohm	
R24	" , " , 22Kohm	
R25	" , " , 2.2Kohm	
R26	" , " , 8.2Kohm	
R27	" , " , 470KOhm	
R28	" , " , 39Kohm	
R29	" , " , 3.3Kohm	
R30	" , " , 390 ohm	
R31	" , " , 10Kohm	
R32	" , " , 4.7Kohm	
R33	" , " , 1Kohm	
R34	" , " , 470 ohm	
R35	" , " , 330 ohm	
R36	" , " , 470Kohm	
R37	" , " , 22Kohm	
R38	" , " , 2.2Kohm	
R39	" , " , 8.2Kohm	
R40	" , " , 470Kohm	
R41	" , " , 39Kohm	
R42	" , " , 3.3Kohm	

PARTS LIST
Meter Amplifier/Power Supply PCB Ass'y
REV.____

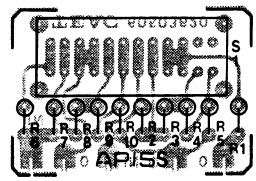
Ref. No.	Desctiption	Parts No.
R43	Resistor, carbon, 390 ohm	
R44	" , " , 10Kohm	
R45	" , " , 4.7Kohm	
R46	" , " , 1Kohm	
R47	" , " , 470 ohm	
R48	" , " , 330 ohm	
R49	" , " , 470Kohm	
R50	" , " , 22Kohm	
R51	" , " , 2.2Kohm	
R52	" , " , 8.2Kohm	
C1	Capacitor, electrolytic, 16V, 10uF	5055 4050
C2	" , " , 16V, 10uF	5055 4050
C3	" , " , 25V, 4.7uF	5055 4530
C4	" , " , 16V, 10uF	5055 4050
C5	" , " , 10V, 100uF	5055 4570
C6	" , " , 16V, 10uF	5055 4050
C7	" , " , 10V, 22uF	6043 0160
C8	" , " , 16V, 10uF	5055 4050
C9	" , " , 16V, 10uF	5055 4050
C10	" , " , 25V, 4.7uF	5055 4530
C11	" , " , 16V, 10uF	5055 4050
C12	" , " , 10V, 100uF	5055 4570
C13	" , " , 16V, 10uF	5055 4050
C14	" , " , 10V, 22uF	6043 0160
C15	" , " , 16V, 10uF	5055 4050
C16	" , " , 16V, 10uF	5055 4050
C17	" , " , 25V, 4.7uF	5055 4530
C18	" , " , 16V, 10uF	5055 4050
C19	" , " , 10V, 100uF	5055 4570
C20	" , " , 16V, 10uF	5055 4050
C21	" , " , 10V, 22uF	6043 0160
C22	" , " , 16V, 10uF	5055 4050
C23	" , " , 16V, 10uF	5055 4050
C24	" , " , 25V, 4.7uF	5055 4530
C25	" , " , 16V, 10uF	5055 4050

PARTS LIST
Meter Amplifier/Power Supply PCB Ass'y
REV.____

Ref. No.	Description	Parts No.
C26	Capacitor, electrolytic, 10V, 100uF	5055 4570
C27	" , " , 16V, 10uF	5055 4050
C28	" , " , 10V, 22uF	6043 0160
C29	" , " , 50V, 470uF	5055 5560
C30	" , " , 35V, 22uF	6043 0090
C31	" , ceramic, 50V, 0.01uF	6044 0050
C32	" , electrolytic, 10V, 2200uF	6043 0910
C33	" , ceramic, 50V, 0.01uF	6044 0050
C34	" , electrolytic, 10V, 100uF	5055 4570
C35	" , ceramic, 50V, 0.01uF	6044 0050

PARTS LIST
Meter Amplifier/Power Supply PCB Ass'y
REV.____

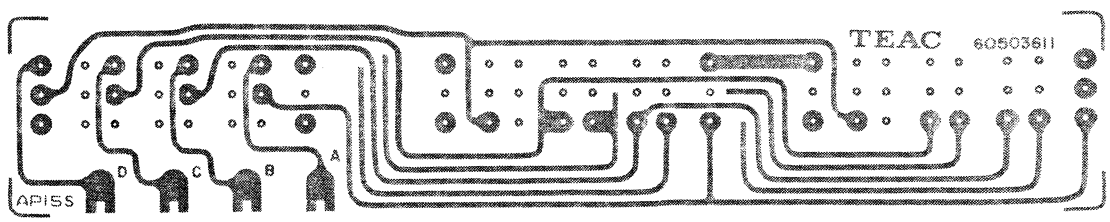
7.3 INPUT LEVEL push switch PCB assembly



LOCATION OF COMPONENTS
INPUT LEVEL Push Switch PCB Ass'y
REV. _____

Title	INPUT LEVEL Push Switch PCB Ass'y	Assembly No. 6085 3100
Ref. No.	Description	Parts No.
	PCB, INPUT LEVEL Push Switch Ass'y (See Ref. No. 12, p. 12)	6050 3620
R1, 6	Resistor, carbon, 100KΩ	
R2, 7	" , " , 91KΩ	
R3, 8	" , " , 24KΩ	
R4, 9	" , " , 6.2KΩ	
R5, 10	" , " , 10KΩ	
	Switch, rotary	6051 0680

7.4 MONITOR SELECT push switch PCB

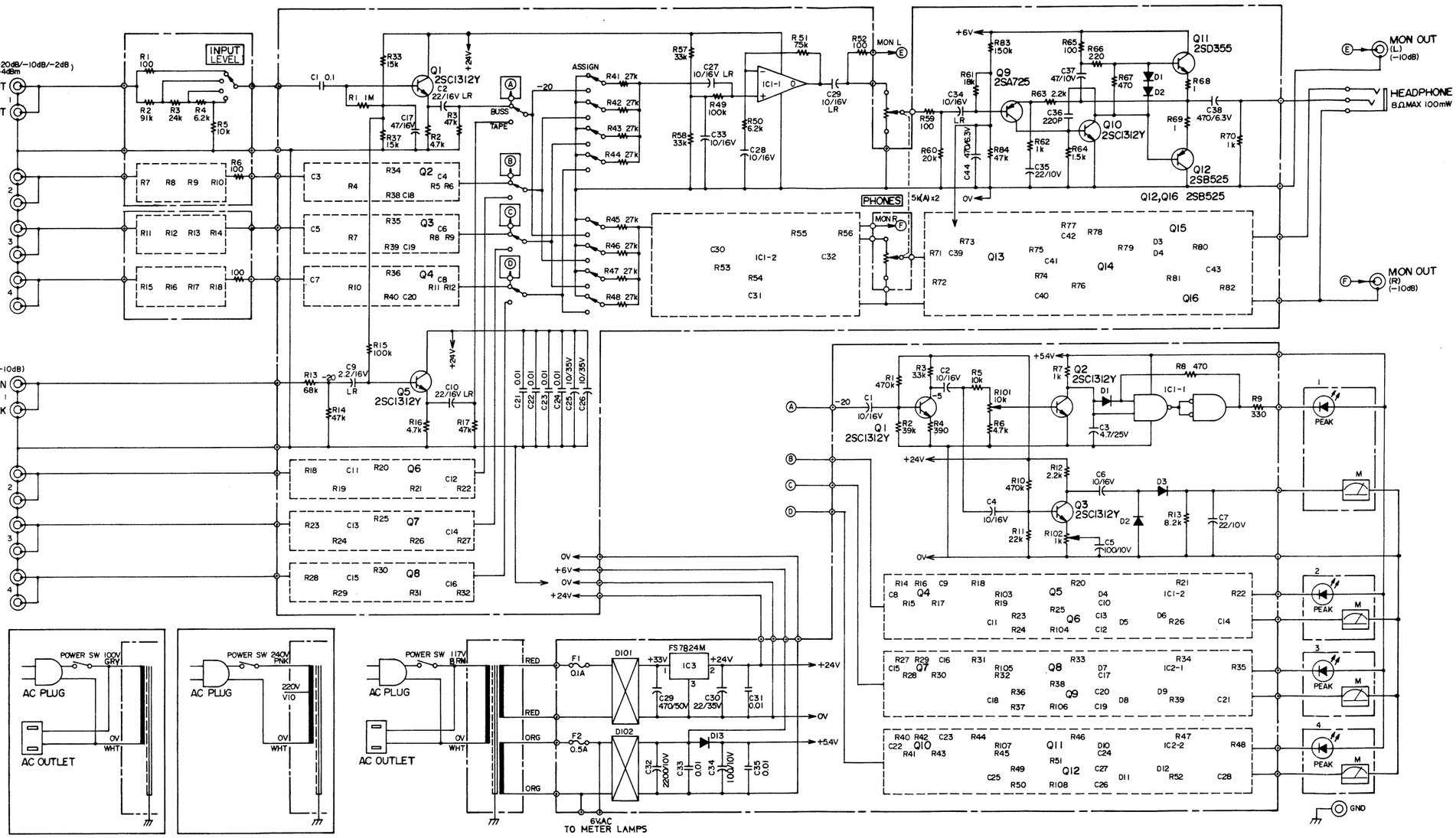


Title	MONITOR SELECT Push Switch PCB	
Ref. No.	Description	Parts No.
	PCB, MONITOR SELECT Push Switch (See Ref. No. 14, p. 12)	6050 3611

PARTS LIST
INPUT LEVEL Push Switch PCB Ass'y
REV. _____

PARTS LIST
MONITOR SELECT Push Switch PCB
REV. _____

8. CIRCUIT SCHEMATIC



CIRCUIT SCHEMATIC
Model BM-20
REV. ____